

**Chapter 7 System of Equations****Section 7.5: Using Elimination to Solve system of Linear Equations**

**Investigation #2** Using the same two equations from the previous page  
the solution of this system was \_ \_ \_ \_ .

$$\begin{aligned} y &= -2x + 8 \\ x + y &= 6 \end{aligned}$$

, recall that

Let's move all the variables to the left side and consider what happens if we **ADD the two equations**...

Consider what happens if we SUBTRACT the two equations....

Graph them out on the grid to the right and see what happens to the solution.

Property #2: When you add or subtract equations of a linear system,

***Produces equivalent linear systems.***

**Example 1:** Solve the following systems by using the method of elimination.

a) 
$$\begin{aligned} 4x - 3y &= 6 \\ 2x + 3y &= 12 \end{aligned}$$

b) 
$$\begin{aligned} x - 2y &= 7 \\ 3x + 4y &= 1 \end{aligned}$$